KODAK EKTAGRAPHIC Slide Projector, Model E-2

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NOTICE: Equipment subject to minor appearance changes.

IMPORTANT: If you modify this projector in any way, UL and CSA labels should be obliterated. All modified equipment should conform to electrical or other codes and to safety requirements.

TOP VIEW

10¹⁵⁄₁₆ (27.8 cm)   11⅜ (28.9 cm)

5½ (14.0 cm)

2¹⁄₁₆ (5.2 cm)   8¹³⁄₁₆ DIA (22.4 cm)

FRONT VIEW

6¹⁄₁₆ (15.4 cm)   4 (10.2 cm)

2¹⁄₁₆ (5.2 cm)

BOTTOM VIEW

15⁄₁₆ (2.4 cm)

8⁵⁄₁₆ (21.1 cm)   3⅜ (8.6 cm)   ¹⁄₁₆ (2 mm)   FOOT (3) ¹³⁄₁₆ DIA (2.1 cm)

1½ (3.8 cm)   8³⁄₁₆ (20.5 cm)

10¾ (27.3 cm)
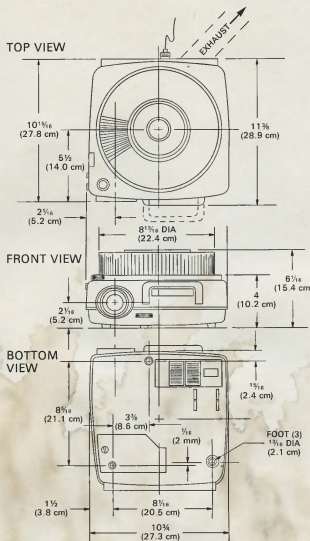
EXTERNAL DIMENSIONS
(All dimensions are in inches, with
metric equivalents given parenthetically.)

Features of the KODAK EKTAGRAPHIC Slide Projector, Model E-2

The Model E-2 Projector has been designed for sophisticated slide presentations. It is an exceptionally durable, dependable audiovisual device—versatile, easy to operate, efficient in its functions. Among the many features that distinguish your projector are these:

• Three Kodak trays are available for use with the Model E-2 Projector. Each tray has convenient slide identification numbers. The KODAK CAROUSEL* Universal Slide Tray, furnished with the projector, has an 80-slide capacity and accepts glass, cardboard, plastic, or metal mounts of almost any kind up to ⅛ inch (3.2 mm) thick. The projector will also accommodate the KODAK CAROUSEL 80 Slide Tray and the KODAK CAROUSEL 140 Slide Tray.

• Any transparency format in a 2 x 2-inch (50 x 50 mm) mount can be projected, including 126-size (26.5 x 26.5 mm), 135-size (22.9 x 34.2 mm), 828-size (26.2 x 38 mm), 127-size (38 x 38 mm), and 110-size (12 x 15.8 mm) transparencies in 2 x 2-inch (50 x 50 mm) mounts or KODAK 2 x 2 Adapters for 110 Slides.

*KODAK CAROUSEL equipment mentioned in this manual can be used with the EKTAGRAPHIC Slide Projector, Model E-2.

• Slides can be projected in forward or reverse sequence or as individually selected. Slide changes are accomplished quickly, eliminating long dark-screen periods between slides.

• Focus shift of the projected image is minimized because all slides are conditioned by warm air before projection.

• Precise horizontal and vertical positioning of each slide is provided. As a result, screen images from two of these projectors can be exactly superimposed. Accurate image registration depends in large part upon carefully mounted transparencies.

• Noise is minimized by low blower speed.

• Elevation and leveling controls are provided.

• The 300-watt ELH lamp uses less energy and produces less heat than a 500-watt CBA lamp but offers equivalent light output.

• The lamp life is extended to almost three times its normal rated life.

• A lamp ejector lever simplifies lamp replacement.

• The heat-absorbing glass and condenser lens are held in place independently of any other mechanism. This means that a new lamp can be installed without danger of accidentally displacing the optics.

• The projector can accommodate the KODAK Remote Control Cord Assembly and other plug-in accessories (page 11).

Specifications—KODAK EKTAGRAPHIC Slide Projector, Model E-2			
HEIGHT	4 inches (10.2 cm) with tray—6 1/16 inches (15.4 cm)	KODAK PROJECTION LENSES AVAILABLE*	**Flat-Field Lenses**
WIDTH	10¾ inches (27.3 cm)		EKTANAR, 2½-inch f/3.5†
LENGTH	11⅜ inches (28.9 cm)		EKTANAR, 3-inch f/3.5 EKTANAR, 4-inch f/2.8
WEIGHT (approximate)	10½ pounds (4.76 kg)		EKTANAR, 5-inch f/2.8
POWER REQUIREMENTS	110 to 125 volts, 60 Hz, 400 watts		EKTANON, 7-inch f/3.5 EKTANAR Zoom, 4 to 6-inch f/3.5
PROJECTION LAMP FURNISHED	ANSI Code ELH lamp (300-watt, 120-volt, quartz-halogen, elliptical reflector)		**Curved-Field Lenses‡** EKTANAR C, 102 mm f/2.8
REPLACEMENT	Code ELH, ENH, or ENG lamp (See table, page 10.)		EKTANAR C, 127 mm f/2.8 EKTANAR C Zoom, 102 to 152 mm f/3.5

*Lenses of other focal lengths are available from commercial suppliers.

†Recommended for use with the following film formats: 110-size (12 x 15.8 mm) transparencies in 2 x 2-inch (50 x 50 mm) mounts or KODAK 2 x 2 Adapters for 110 Slides; and 135-size half-frame (15.9 x 22.9 mm) transparencies. Not recommended for projected images larger than 12 inches (30.5 cm) from 126-size (26.5 x 26.5 mm), 135-size (22.9 x 34.2 mm), 30 mm square, 828-size (26.2 x 38 mm), and 127-size (38 x 38 mm) transparencies.

‡Designed specifically to compensate for film curl when open-frame mounts (cardboard or plastic) are used with 135-size, 126-size, and 30 mm square transparencies, and the *emulsion* side of the transparency is *toward* the projection lens. For information on curved- and flat-field lenses, write to Eastman Kodak Company, Dept. 412L, Rochester, N.Y. 14650, and request Kodak Pamphlet No. S-70-4-1, *Choosing Between Curved-Field and Flat-Field Lenses.*
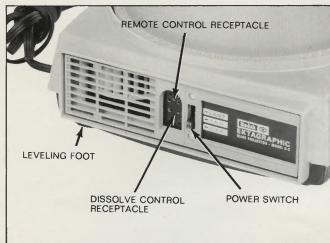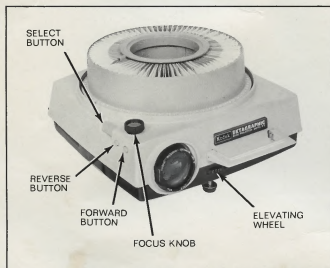
The Controls and Their Functions

FIG. 1

FIG. 2

REMOTE CONTROL RECEPTACLE (Figure 1)

This receptacle is for a KODAK Remote Control Cord Assembly (or a KODAK CAROUSEL Sound Synchronizer, Model 3). See page 11. Also, see step 2 under "Preparing the Projector," page 7.

DISSOLVE CONTROL RECEPTACLE

Each KODAK CAROUSEL Dissolve Control or Quick-Change Control projector cord has a 7-prong connector, which fits the REMOTE CONTROL RECEPTACLE and the DISSOLVE CONTROL RECEPTACLE. (See page 11.)

POWER SWITCH

When this switch is at FAN, the cooling fan will operate but the projection lamp will not be lighted. This position is provided primarily to operate a dissolve control or quick-change control, or to cool the projector rapidly for lamp replacement. With the switch at LAMP, the fan will run and the projection lamp will be lighted. An ELH 300-watt lamp, with a rated average life of 35 hours, is used. However, the lamp operates at 300 watts only when a dissolve control (or quick-change control) is used with the projector. Otherwise, the lamp is operated at 255 watts, and as a result, average lamp life is increased to 105 hours.

FOCUS KNOB (Figure 2)

Turning the FOCUS KNOB will focus the image on the screen. Moving the knob toward the side of the projector releases the lens for removal.

FORWARD AND REVERSE BUTTONS

These buttons control forward or reverse movement of the slide tray, one slide space at a time.

SELECT BUTTON

When the SELECT BUTTON is depressed and held down, the slide tray can be rotated to select any slide for projection, show single slides without a slide tray, or retrieve a slide from the gate.

ELEVATING WHEEL

This device raises or lowers the front of the projector for vertical adjustment of the screen image. The range of elevation is from 0 to 6½ degrees.

LEVELING FOOT (Figure 1)

Turning the LEVELING-FOOT wheel raises or lowers the left side of the image on the screen.

Setting Up—the Room and the Projector

SCREEN AND SEATS

Because images projected from slides may be horizontal, vertical, or square, a square screen is most desirable. It should be large enough for easy viewing by everyone present and (for most installations) should be at the same level as, or higher than, the projector.

For best results with most slides, the rear row of seats should not be farther from the screen than eight times the projected image height. Seats should be placed as close as possible to both sides of the beam thrown by the projector. The screen image will appear most brilliant and realistic to the persons seated nearest the projector beam.

PROJECTION DISTANCE TABLE FOR KODAK EKTAGRAPHIC SLIDE PROJECTORS
(Projection distances are approximate and are measured from projector gate to screen.)

| Lens Focal Length (in./mm) | | | | | | | | | | Screen Image Dimensions (in./m) | | | | |
| 1.4 / 35 | 2 / 50 | 2½ / 65 | 3 / 75 | 4 / 100 | 5 / 125 | 7 / 180 | 9 / 230 | 11 / 280 | 4 to 6 (Zoom) 100 to 150 | 135—35 mm | 126 | Super-Slide | Single-Frame Filmstrip | 110 |
Projection Distances (ft/m)														
2 / 0.6	3 / 0.8	3½ / 1.1	4 / 1.3	5½ / 1.7	7 / 2.1	10 / 3.0	12½ / 3.8	15½ / 4.7	5½ to 8½ / 1.7 to 2.5	13½ x 20 / 0.33 x 0.50	15½ sq / 0.39	22 sq / 0.56	10 x 13 / 0.25 x 0.33	7 x 9 / 0.18 x 0.23
3 / 0.8	4 / 1.2	5 / 1.6	6 / 1.8	8 / 2.4	10 / 3.0	14 / 4.3	18 / 5.6	22½ / 6.7	8 to 12 / 2.4 to 3.6	20 x 30 / 0.50 x 0.75	23 sq / 0.58	33 sq / 0.83	15 x 19½ / 0.37 x 0.49	10½ x 14 / 0.26 x 0.35
3½ / 1.1	5 / 1.6	6½ / 2.0	8 / 2.3	10½ / 3.1	13 / 3.9	18½ / 5.6	24 / 7.2	29 / 8.8	10½ to 16 / 3.1 to 4.7	27 x 40 / 0.67 x 1.00	31 sq / 0.77	44½ sq / 1.11	20 x 26½ / 0.50 x 0.66	14 x 18½ / 0.34 x 0.46
4½ / 1.4	6½ / 1.9	8 / 2.5	10 / 2.9	13 / 3.9	16½ / 4.8	23 / 6.9	29½ / 8.9	36 / 10.8	13 to 19½ / 3.9 to 5.8	33½ x 50 / 0.84 x 1.25	38½ sq / 0.97	55½ sq / 1.39	25 x 33 / 0.62 x 0.82	17½ x 23 / 0.44 x 0.58
5½ / 1.6	8 / 2.3	9½ / 3.0	11½ / 3.4	15½ / 4.6	19½ / 5.7	27 / 8.3	35 / 10.6	44½ / 12.8	15½ to 23½ / 4.6 to 6.9	40 x 60 / 1.00 x 1.50	46½ sq / 1.16	66½ sq / 1.67	30 x 39 / 0.75 x 0.99	21 x 27½ / 0.53 x 0.69
6½ / 1.9	9½ / 2.7	11½ / 3.5	14 / 4.0	18½ / 5.3	23 / 6.6	32½ / 9.6	41½ / 12.2	51 / 14.9	18½ to 28 / 5.3 to 8.0	48 x 72 / 1.17 x 1.75	56 sq / 1.36	80 sq / 1.94	36 x 47½ / 0.87 x 1.15	25 x 33½ / 0.61 x 0.81
8½ / 2.6	12 / 3.7	15½ / 4.7	18½ / 5.6	24½ / 7.5	30½ / 9.3	43 / 13.1	55 / 16.8	67 / 20.4	24½ to 36½ / 7.5 to 11.1	64½ x 96 / 1.34 x 2.00	74½ sq / 1.55	106½ sq / 2.22	47½ x 63 / 0.99 x 1.32	33½ x 44½ / 0.70 x 0.92
10½ / 3.1	15 / 4.5	19 / 5.8	23 / 6.7	30½ / 9.0	38 / 11.2	53 / 16.2	68½ / 20.6	83½ / 25.1	30½ to 45½ / 9.8 to 13.5	80½ x 120 / 2.00 x 3.00	93 sq / 2.32	133½ sq / 3.33	59½ x 79 / 1.49 x 1.97	42 x 55½ / 1.05 x 1.39
12½ / 4.2	18 / 5.9	22½ / 7.7	27 / 8.9	36½ / 12.9	45½ / 14.9	63½ / 21.4	81½ / 27.4	100 / 33.1	36½ to 54½ / 11.9 to 17.8	96½ x 144 / 2.68 x 4.00	111½ sq / 3.10	160 sq / 4.44	71½ x 95 / 1.99 x 2.63	50½ x 66½ / 1.40 x 1.85

NOTE: The metric figures in this table are based on selected width dimensions for the 135 (35 mm) image sizes and are not direct conversions of the inch/foot figures.

LOADING THE SLIDE TRAY

CAUTION: Transparencies laminated to a single sheet of glass should be inserted into KODAK Metal Binders (or other protective frames) before being projected. Do not use damaged slides (with torn mounts, exposed sharp glass corners or edges, or loose or sticky tape). Such slides should be repaired or remounted before they are loaded into a tray. Cardboard slides with bent or frayed corners project more reliably in trays with 80-slide capacity.

Before you start to load the CAROUSEL Universal or CAROUSEL 80 Tray, check to be sure that the metal SLIDE RETAINER PLATE (Figure 3) is locked in the correct position by the LATCH. The formed end of the latch should be engaged in the two small LATCH NOTCHES. In case this is not so, turn the plate until it is locked.

Before you start to load the CAROUSEL 140 Tray, check to be sure that the INDEX HOLE (Figure 4) is opposite the INDEX NOTCH, as shown. If it is not, press the LATCH in the direction indicated by the arrow. Holding the latch in this position, turn the bottom plate until the index hole points to the index notch. Then release the latch.
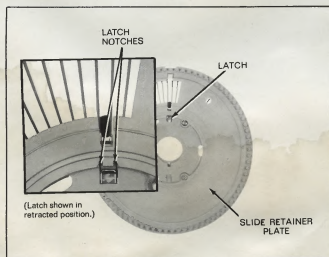
LATCH NOTCHES

LATCH

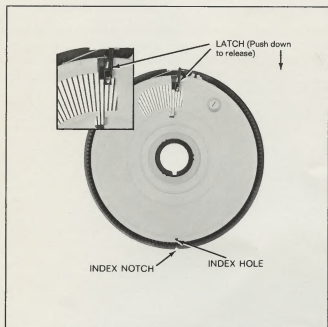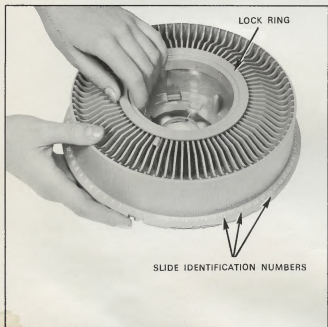(Latch shown in retracted position.)

SLIDE RETAINER PLATE

FIG. 3

FIG. 4

FIG. 5

The molded numbers on the trays are SLIDE IDENTIFICA-
TION NUMBERS (Figure 5). (Only even numbers are marked
on the 140 Tray.) The slide being shown will be opposite
the GATE INDEX (Figure 6) on the projector.

Remove the slide LOCK RING (Figure 5) by turning it coun-
terclockwise (UNLOCK) and lifting it off the tray. Insert
a slide in each slot in the tray, orienting the slide so that
the image projected on the screen is right-side up and reads
correctly from left to right.

After all slides are in the tray, replace the lock ring,
turning it toward LOCK until you feel the detent action
once or twice. This will lock the ring to the tray.

INSTALLING THE SLIDE TRAY

The CAROUSEL Universal and Carousel 80 Trays

Hold the tray over the projector, center it over the center
post on the top of the projector, and turn it to place the
slide-identification number "0"–or "zero position"–at the
gate index, as shown in Figure 6. Next, lower the tray and
make certain it is seated firmly within the SLIDE-TRAY GUIDE
RING. If the tray and projector components do not mesh
properly, recheck the metal slide retainer plate as described
under "Loading the Slide Tray."

The CAROUSEL 140 Tray

Put the loaded slide tray on the projector so that the hole
in the center of the tray fits over the center post on the
top of the projector; then revolve the tray slowly in a
clockwise direction until the identification bar–or "zero
position"–(between numbers 2 and 140) on the tray is ad-
jacent to the gate index. The tray will drop into operating
position on the top of the projector. If the slide tray does
not easily drop into place, check the alignment of the index
hole and index notch as described under "Loading the Slide
Tray."

NOTE: The 140 Tray drops down farther during the
first change cycle or when the select button is
pressed.

Using an Extra Slide or Cardboard

If you wish to use an extra slide, for a total of 81 (or 141
in the 140 Tray), or a title slide that will be projected as
soon as the projection lamp goes on, insert this slide in
the projector gate (see Figure 9) before you set the tray
in place. Or, if you want the screen to be dark after you
have shown slide No. 80 (or No. 140 in the 140 Tray), insert a
2 x 2-inch (50 x 50 mm) piece of cardboard (no thicker than a
slide) in the gate before you position a tray on the projector.
This additional slide or piece of cardboard will enter the
blocked-off space in the tray at the zero position when the
first regular slide is projected; it will return to the gate when
the slide tray is positioned at zero.

Another use for the 2 x 2-inch (50 x 50 mm) cardboard is to
separate or terminate small groups of slides; insert a card-
board in the tray wherever you want a dark-screen interval.

USING THE ZOOM LENS

The available flat-field or curved-field zoom lenses (see page 3) let you vary the size of the projected image without moving either the projector or the screen. By this means, you can fill the screen at any normal projector-to-screen distance within the range of the lens.

To use a zoom lens—

a. Focus the image on the screen by turning the focus knob on the projector.

b. Rotate the lens barrel until the image fills the screen.

c. If necessary, readjust the focus and the position of the lens barrel to obtain the best combination of image size and focus.

PREPARING THE PROJECTOR

1. Open the door of the CORD COMPARTMENT (Figure 7) on the bottom of the projector. Withdraw the POWER CORD.

   IMPORTANT: Always make sure you have pulled out the cord to its full length before you turn on the projector. The compartment must not be used for storage during operation. This is necessary to provide proper air circulation through the projector case.

The power cord, permanently attached to the projector, has a 3-prong polarized plug for connection to a 110 to 125-volt, 60 Hz outlet of the grounding type.

2. If a Remote Control Cord Assembly is to be used, insert the plug on the end of the cord into the remote control receptacle on the projector (see Figure 1). The plug must be correctly oriented. Make certain the orientation dot is up.

3. If a loaded slide tray is not on the projector, install one at this time. Use the procedure described above.

4. Move the power switch to LAMP.

5. If you have placed an additional slide in the projector gate, as described on page 6, this slide will now be projected on the screen. If you have placed a square of cardboard in the gate, the screen will be dark. Otherwise, the screen will be bright. If there is no image, momentarily depress the forward button on the projector to project the first slide.

6. Focus the image on the screen, using the focus knob. (See above for focusing instructions for the zoom lens.)

7. Center the image vertically on the screen (elevating wheel).

8. Level the screen image (leveling-foot wheel).

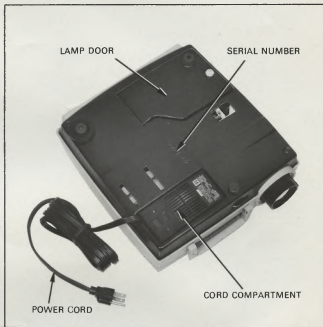9. Move the power switch to OFF until you are ready to start the presentation.

GATE INDEX

SLIDE-TRAY GUIDE RING

FIG. 6

LAMP DOOR

SERIAL NUMBER

POWER CORD

CORD COMPARTMENT

FIG. 7

Operating
the Projector

TRAY REMOVAL SCREW

FIG. 8

SELECT
BUTTON
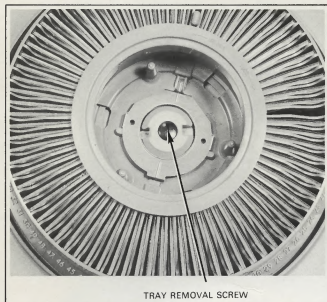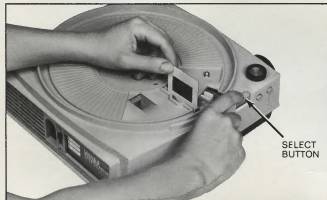
FIG. 9

After preparing the projector for operation as described in the previous section, move the power switch to LAMP.

FORWARD AND REVERSE BUTTONS

To project the slide with the next higher identification number, momentarily depress the forward button; the slide tray will rotate one slide space in the forward (counter-clockwise) direction. Depress and release the reverse button to rotate the tray one slide space in the reverse (clockwise) direction.

> **IMPORTANT:** When you use the reverse button, press it firmly. If this button is not fully depressed, the slide tray may rotate in a forward direction.

RANDOM PROJECTION

To project a slide out of sequence:
1. Firmly depress the select button and hold it down.
2. Rotate the slide tray until the slide you want to project is opposite the gate index on the projector.
3. Release the select button. The selected slide will be immediately projected.

NORMAL SLIDE-TRAY REMOVAL

If the zero position is at the gate index, simply lift off the tray. Otherwise:
1. With the projector turned on, depress the select button firmly and hold it down.
2. Rotate the slide tray—in either direction—until the zero position is opposite the gate index.
3. Release the select button and lift off the tray.

EMERGENCY SLIDE-TRAY REMOVAL

In the event that the slide-changing mechanism becomes inoperative as the result of a defective slide becoming lodged in the projector gate, the tray usually will need to be removed in order to eliminate the trouble. If the tray does not advance, depress either the forward or reverse button. If this does not free the stuck slide, follow this tray-removal procedure:
1. Turn the coin-slotted TRAY REMOVAL SCREW (Figure 8) in either direction as far as it will go.
2. While holding the screw in this position, lift the tray off the projector.
3. Remove the obstruction from the projector gate by depressing the forward button, or correct any other cause of the malfunction.
4. With the lock ring in place, turn the tray upside down. Rotate the bottom plate, or slide retainer, until the latch engages the notches in the plate (or until the index hole is adjacent to the index notch on the 140 Tray). See pages 5 and 6. Place the tray on the projector. Repair the damaged slide (if this was the cause), and return it to the tray.

ALTERNATIVE PROJECTION METHODS

1. Slides in tray without tray ring: By leaving the tray ring off, slides can be inserted or removed easily. This simplifies editing.
2. With the KODAK CAROUSEL Stock Loader: See page 11.
3. Without a slide tray: A single slide can be shown simply by inserting it, correctly oriented, into the projector gate as shown in Figure 9. To remove the slide, depress the select button.

8

FOR LONG-RUN APPLICATIONS

If the projector is to be run for an unusually long period of time:

- Provide for unrestricted flow of air to and from the openings in the projector housing. If the projector is to be used in a window display or in an enclosure, provide a duct for warm air expelled from the rear grill vent. In some cases, additional forced-air ventilation may be needed.

- The air circulating through the projector should be kept as dust-free as possible.

- Better cooling of the projector results if relatively cool air is available to it. Normal room temperatures are satisfactory.

In normal use, the parts of the projector that are subject to wear have about equal life expectancy; therefore, no other special precautions are necessary. However, in some specialized applications, a projector may be cycled forward rapidly for hundreds of hours. Under these circumstances, you should consider making the modifications recommended in Kodak Pamphlet No. S-70-2-1, *Extending Clutch Life for Heavily Used KODAK Slide Projectors.* You can obtain a copy by writing to the address below.

Additional information on long-run applications is contained in Kodak Pamphlets No. S-53, *Heavy-Duty Operation of KODAK EKTAGRAPHIC and CAROUSEL Slide Projectors,* and No. S-56, *The Core and Maintenance of KODAK CAROUSEL Slide Trays.* A single copy of each is available on request from Eastman Kodak Company, Dept. 412L, Rochester, N.Y. 14650. Also ask for a free copy of *Index to Kodak Information* (L-5), which lists many other Kodak publications with subjects related to slide presentations.

After the Showing— A Shutdown Procedure

We recommend that you use a standard shutdown procedure after your slide presentation has been completed. This will help provide proper care of the projector and will make certain it is ready for the next user.

1. Rotate the slide tray to the zero position, using the select button (page 8, "Random Projection").

2. Move the power switch to OFF. Rapidly cooling the projector after each use is not recommended. But, if the unit must be handled immediately after a slide presentation or the lamp must be changed quickly, the fan can be run to accelerate cooling of the projector. (The right-rear corner of your projector may be uncomfortably warm for several minutes after you switch off the power. The maximum temperature reached, however, will be well below the danger point for the lamp, projector, tray, or slides.)

3. Remove the slide tray from the projector.

4. Retract the elevating and leveling feet.

5. Retract the lens (focus knob).

6. Disconnect the power cord (and remote control cord, if used) and store it in the cord compartment.

If there is no need to move the equipment before your next slide presentation, you can omit steps 4 through 6.

Servicing the Projector

Before you attempt any maintenance or cleaning operation on the projector, make certain the unit is **cool.** *Disconnect the power cord from its outlet.* Also, it is a good idea to remove the slide tray.

PROJECTION LAMP REPLACEMENT

Turn the projector upside down. Open the LAMP DOOR (Figure 7) by turning the coin-slotted screw counterclockwise.

Release the LAMP EJECTOR LEVER (Figure 10) from the notch in which it is secured, and lift the lever to eject the lamp from its socket. Withdraw the lamp, noting how the two pins on its base fit into the socket.

To install a lamp, place it into the socket with the two pins on its base fitting into the two slots in the socket and with the longer sides of the lamp base parallel to the bottom of the projector. Next seat the lamp by lowering and latching the lamp ejector lever. Check to see if the lamp is completely seated by applying pressure downward on the reflector with your fingers. Then firmly push the socket toward the lamp.

NOTE: You should not touch the *bulb* portion of the *lamp.* However, if you do get finger marks on the bulb, carefully wipe it with a clean, soft, lintless cloth moistened with rubbing alcohol.

Close and fasten the lamp door.

The standard replacement lamp for this projector is a 300-watt, 120-volt ANSI Code ELH lamp; however, lamps with differing specifications may be desirable for some applications. See table below.

Suitable Projection Lamps

ANSI Code	Relative Brightness	Average Life (hours)
ELH (medium brightness/life)	70	105
ENH (maximum lamp economy)	50	330
ENG (high brightness)*	90	50

*High-brightness lamps continually used at full brightness output can shorten useful slide life.

THERMAL FUSES

Your projector is equipped with thermal fuses to prevent overheating. Should the fuses open, your projector will not operate. Replacement of the fuses requires partial disassembly of the projector, a job requiring factory or repair station attention. (See listing of service facilities on back cover.) You should also correct any situation outside the projector that contributed to fuse failure—inadequate ventilation, dusty environment, etc—before returning the projector to service.
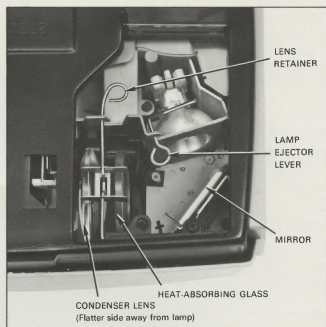
CLEANING

The optical system of your projector must be kept clean for best results. Dust or fingerprints on the lenses will reduce the brightness and clarity of the screen image.

Projection Lens

Remove the lens from the projector. With a soft, clean, lintless cloth or KODAK Lens Cleaning Paper (or equivalent), wipe the front and back surfaces of the lens.

Replace the lens, making sure that the teeth on the lens barrel are engaged by the gear on the focus-knob shaft.

LENS RETAINER

LAMP EJECTOR LEVER

MIRROR

HEAT-ABSORBING GLASS

CONDENSER LENS
(Flatter side away from lamp)

FIG. 10

Condenser Optics

WARNING: Heat-absorbing glass is subjected to special processes that tend to put stresses and strains into it. Consequently, the glass may shatter for no apparent reason and without warning. Therefore, handle heat-absorbing glass with care and follow these recommendations:

1. For personal safety, use a piece of cloth or a glove while handling the glass.

2. Place the glass on an insulating material such as wood, rubber, or cardboard.

3. Keep the glass covered while it is removed, so that if shattering occurs, it will be confined.

Turn the projector upside down. Open the lamp door as described above. Release the LENS RETAINER from the notch in which it is secured and raise it to an upright position. Carefully lift out the HEAT-ABSORBING GLASS and the CONDENSER LENS,* noting their positions in the chamber. Do not attempt to remove the MIRROR; it has been precisely aligned during manufacture to provide optimum screen illumination. Avoid touching the mirror surface with the fingers. Clean the mirror and both sides of the heat-absorbing glass and condenser lens with a clean, soft, lintless cloth or with KODAK Lens Cleaning Paper (or equivalent).

Replace the elements as follows, holding each one with cloth or lens cleaning paper, or by its edge, to prevent finger marks: condenser lens in the guides nearer the front of the projector with the flatter side of the condenser toward the front; heat-absorbing glass in the guides nearer the mirror. Return the lens retainer to its original position and make sure it is latched. Close and fasten the lamp door.

*To use the KODAK EKTAGRAPHIC Filmstrip Adapter (page 11) with this projector, it is recommended that the CONDENSER LENS (Figure 10) be replaced with Kodak Part No. 625889. (Utilization of this substitute condenser lens with *slides* will result in a slight decrease in the projector's light output.) See your supplier of Kodak audiovisual products or write to Eastman Kodak Company, Dept. 620, Rochester, N.Y. 14650.

Auxiliary Equipment

Each of the items described below is an accessory that can be used with the Model E-2 Projector.

KODAK CAROUSEL PROJECTOR CASE, MODEL C

This sturdy, blow-molded case provides a safe, convenient means of storing and carrying an EKTAGRAPHIC Projector, equipped with any Kodak lens, and a boxed slide tray. The case has five compartments, which will accommodate a KODAK CAROUSEL Stack Loader, spare lamps, and miscellaneous items.

KODAK CARRYING CASE FOR KODAK CAROUSEL SLIDE TRAYS

Has two compartments so that three slide trays can be carried or one or two trays plus extension cords, lenses, and other items.

KODAK AV COMPARTMENT CASE

A convenient, rugged case of vulcanized fiber. Will accommodate the slide projector, one slide tray, extra lenses, cords, and spare projection lamp.

KODAK CAROUSEL UNIVERSAL SLIDE TRAY
KODAK CAROUSEL 80 SLIDE TRAY
KODAK CAROUSEL 140 SLIDE TRAY

Additional slide trays, supplied in attractive bookshelf-type storage boxes. Each box contains an identification card and tray sticker. Use the CAROUSEL Universal Slide Tray for all slides, including glass slides up to 1/8 inch (3.2 mm) thick; use the CAROUSEL 80 Slide Tray for slides mounted in cardboard or thin glass (up to 1/10 inch/2.5 mm thick). For slides in cardboard or thin plastic mounts up to 1/16 inch (1.6 mm) thick, use the CAROUSEL 140 Slide Tray.

KODAK PROJECTION LENSES

Several KODAK Projection Lenses are available for the EKTAGRAPHIC Slide Projector, Model E-2. (See page 3.)

KODAK REMOTE CONTROL CORD ASSEMBLY (Part Number 171054)

Twelve-foot (3.7 m), remote control cord for changing slides (forward or reverse) by simple push of a button.

KODAK Remote Extension Cord, 25-foot (for KODAK CAROUSEL Projectors). Extends the range of the 12-foot (3.7 m) remote control cord so that you can operate the projector from a location near the screen. Up to four extension cords can be added to one Remote Control Cord.

KODAK EKTAGRAPHIC WRITE-ON SLIDES

Standard 2 x 2-inch (50 x 50 mm) cardboard slide mounts containing squares of KODAK ESTAR Film Base matte-surfaced on one side (image area—1¼ x 1¼ inches/38 x 38 mm). Write or draw on the matte surface with pencil or fiber-tip pen to create quick, simple, and inexpensive flash slides, preview slides, last-minute comment slides, etc. (Not for use with projectors featuring automatic focusing.)

KODAK CAROUSEL SOUND SYNCHRONIZER, MODEL 3

This unit permits a stereo record/playback tape recorder,

that is equipped with an external speaker jack, to be used as a programmer with your projector. In operation, one of the tape tracks is used for slide-change signals while all other sound is recorded on the other track. One can also control two projectors through a KODAK CAROUSEL Dissolve Control or KODAK CAROUSEL Quick-Change Control, Model A.

KODAK CAROUSEL DISSOLVE CONTROL, MODEL 2

Controls two EKTAGRAPHIC Slide Projectors, Model E-2, for slide shows in which one image dissolves into the next while screen illumination remains virtually constant. Unit contains timer for continuous automatic operation, or can be controlled by the remote control cord of one of the projectors. Can also be controlled by the KODAK CAROUSEL Sound Synchronizer, Model 3. Ideal for sales presentations or sophisticated slide showings.

KODAK CAROUSEL QUICK-CHANGE CONTROL, MODEL A

Can be used with two KODAK Slide Projectors to present slide shows in which the images dissolve instantly from one to the next, providing a smooth presentation with no dark-screen interval between slides. Projection can be controlled manually and remotely by the lecturer, or automatically with use of the timer that is part of this instrument. The automatic projection feature makes the combination of a quick-change control and two projectors excellent for advertising displays, technical exhibits, self-teaching facilities, and other applications in which full-time attendance of a projectionist is not wanted.

KODAK EKTAGRAPHIC FILMSTRIP ADAPTER

The KODAK EKTAGRAPHIC Filmstrip Adapter will enhance the versatility of your EKTAGRAPHIC Slide Projector, Model E-2, by equipping it for the projection of 35 mm single-frame filmstrips. To use the Filmstrip Adapter with this projector, we recommend that you change the condenser lens. See

KODAK CAROUSEL STACK LOADER

Lets you project and edit up to forty 2 x 2-inch (50 x 50 mm) slides in cardboard or thin plastic mounts without placing them in a slide tray. Uses the gravity-feed system that makes your projector so reliable.

KODAK SLIDE CLIP SET (WITH STORAGE FILE)

The KODAK Slide Clip (for use with the KODAK CAROUSEL Stack Loader) is a device that makes handling and showing blocks of 2 x 2-inch (50 x 50 mm) slides easy and convenient. It helps to prevent loose slides from being accidentally dropped—and the 12-clip box gives them compact, low-cost storage.

KODAK EKTALITE PROJECTION SCREEN, MODEL 3 (40x40)

Provides a uniformly brilliant image that almost totally rejects stray light falling on the screen from anywhere outside the normal viewing position. The result—excellent image contrast and color saturation, even in brightly lighted areas.

Warranty

KODAK EKTAGRAPHIC Slide Projector, Model E-2

Carefully follow all the instructions in this manual to get the best results and to prevent damage to your KODAK EKTAGRAPHIC Slide Projector, Model E-2.

Your projector will be repaired at no charge within one year from date of purchase, except for worn-out projection lamps and damage caused by misuse or circumstances beyond Kodak's control. This warranty applies only to the projector, and Kodak cannot be responsible for other losses or damages of any kind resulting from projector failure.

Except as mentioned above, no other warranty, express or implied, applies to this slide projector.

For service during or after the warranty period, you may take your projector to any one of the many Kodak Consumer Centers located throughout the United States. Please consult your local telephone directory under Photographic Equipment and Supplies for the locations of these centers. You may also return your projector directly or through a dealer in Kodak products to one of the following Kodak Equipment Service Centers. To help us get your projector back to you promptly, please enclose a note giving the details of the projector malfunction, date of purchase, and your complete name and address.

Eastman Kodak Company
Central Equipment Service Center
800 Lee Rd.
Rochester, N.Y. 14650

Eastman Kodak Company
Regional Equipment Service Center
1334 York Ave.
New York, N.Y. 10021

Eastman Kodak Company
Regional Equipment Service Center
5315 Peachtree Industrial Blvd.
Chamblee, Ga. 30341

Eastman Kodak Company
Regional Equipment Service Center
1901 West 22nd St.
Oak Brook, Ill. 60521

Eastman Kodak Company
Regional Equipment Service Center
2800 Forest La.
Dallas, Tex. 75234

Eastman Kodak Company
Regional Equipment Service Center
9100 Alcosta Blvd.
San Ramon, Calif. 94583

Eastman Kodak Company
Regional Equipment Service Center
12100 Rivera Rd.
Whittier, Calif. 90606

Eastman Kodak Company
Regional Equipment Service Center
1122 Mapunapuna St. (P.O. Box 17007)
Honolulu, Hawaii 96817

Before you start to use your new projector—learn these basic safety precautions. Keep them in mind whenever you handle or operate the equipment.

IMPORTANT SAFEGUARDS

1. Read and understand all instruction material that is provided with this projector.

2. Close supervision is necessary when the projector is used by persons not fully acquainted with correct operating procedure.

3. Take special care to avoid burns that can result from touching hot parts. Allow the projector to cool before replacing a lamp or cleaning lenses.

4. Do not operate this projector with a damaged cord, or if the unit has been dropped or damaged, until it has been examined by a qualified service representative.

5. Be careful to place the power cord where you or other persons will not trip over it.

6. If an extension cord is necessary, a 3-wire grounding type cord with a suitable current rating should be used. Cords rated for less amperage than the projector may overheat.

7. Never yank the cord to pull the plug from the outlet. Grasp the plug and pull it to disconnect.

8. Do not disassemble this projector beyond the extent necessary to perform the routine maintenance procedures described in the instruction manual. If further disassembly is required, take the projector to a qualified service representative, since incorrect reassembly can cause electric shock hazard.
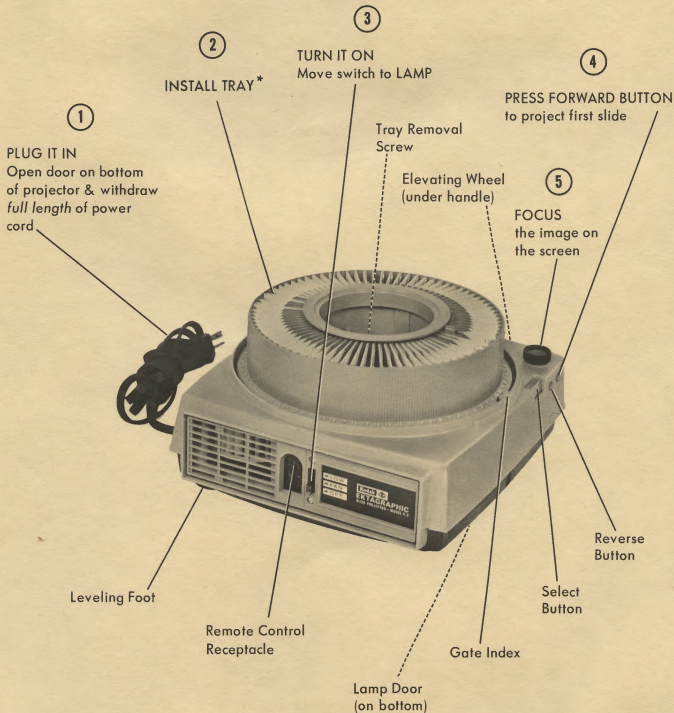
SAVE THESE INSTRUCTIONS

Basic Operating Instructions
KODAK EKTAGRAPHIC Slide Projector,
Model E-2

② **INSTALL TRAY** *

③ **TURN IT ON**
Move switch to LAMP

④ **PRESS FORWARD BUTTON**
to project first slide

① **PLUG IT IN**
Open door on bottom
of projector & withdraw
full length of power
cord

**Tray Removal
Screw**

Elevating Wheel
(under handle)

⑤ **FOCUS**
the image on
the screen

**Reverse
Button**

**Select
Button**

Leveling Foot

**Remote Control
Receptacle**

Gate Index

Lamp Door
(on bottom)

ELEVATING WHEEL. To raise or lower the image on the screen, turn the elevating wheel on the front of the projector.

LEVELING-FOOT WHEEL. To raise or lower the left side of the image on the screen, turn the leveling-foot wheel.

FORWARD AND REVERSE BUTTONS. To project the slide with the next higher identification number, momentarily depress the *forward* button; to rotate the tray one slide space in the reverse (clockwise) direction, depress and release the reverse button. (Press the reverse button firmly; if this button is pressed too lightly, the tray may rotate in a forward direction.)

REMOTE CONTROL. If a Remote Control Cord Assembly (part number 171054) is to be used, insert the plug on the end of the cord into the 5-pin receptacle on the projector. The plug must be correctly oriented; make certain the red dot on the plug is up.

RANDOM PROJECTION. To project a slide out of sequence:

1. Firmly depress the select button and hold it down.

2. Rotate the slide tray until the slide you want to project is opposite the gate index on the projector.

3. Release the select button. The selected slide will be immediately projected.

SLIDE-TRAY REMOVAL. If the zero position on the tray is opposite the gate index, simply lift off the tray. Otherwise:

1. With the projector turned on, depress the select button firmly and hold it down.

2. Rotate the slide tray—in either direction—until the zero position is opposite the gate index.

3. Release the select button and then lift off the tray.

EMERGENCY SLIDE-TRAY REMOVAL. If for any reason it becomes necessary to remove the tray without returning it to the zero position, use this procedure:

1. Turn the coin-slotted tray removal screw in either direction as far as it will go.

2. Hold the screw in this position and lift off the tray.

3. Turn the tray upside down and rotate the bottom plate until it locks.

PROJECTION LAMP REPLACEMENT. If the lamp burns out during a showing:

1. Allow the fan to run to cool the lamp and lamp compartment.

2. Remove the slide tray.

3. Move the switch to OFF.

4. Disconnect the power cord.

5. Turn the projector upside down.

6. Open the lamp door by turning the coin-slotted screw counterclockwise.

7. Release the lamp ejector lever from the notch in which it is secured. Lift the lever to eject the lamp. Withdraw the lamp.

8. Place a new lamp (ANSI Code ELH) in the socket with the two pins on its base fitting the two slots in the socket. (Code ENH lamp can be used for extended lamp life with less output; ENG lamp for more brightness, but shorter life.)

9. Return the ejector lever to its original position and make sure it is latched. The lever will locate the lamp correctly for operation.

10. Close and fasten the lamp door.

For more detailed information, refer to the instruction manual.

Kodak and Ektagraphic are trademarks.

Motion Picture and Audiovisual Markets Division

EASTMAN KODAK COMPANY • ROCHESTER, N.Y. 14650

KODAK CAROUSEL TRANSVUE 80 Slide Tray— Translucent Gray

Holds 80 slides in 2 x 2-inch cardboard, plastic, or *thin* glass mounts *up to 1/10 inch thick.*

KODAK CAROUSEL TRANSVUE Universal Slide Tray— Translucent White

Holds 80 slides in 2 x 2-inch mounts *up to 1/8 inch thick.* Because this tray accommodates thick mounts, badly warped cardboard mounts may fit into the tray. However, don't project such slides, because they may jam in the projector or tray; straighten the mounts with your fingers or place the slides in new mounts, such as KODAK READY-MOUNTS.

IMPORTANT: Don't use slides mounted with loose or sticky tape or mounts that have sharp glass corners in these trays.

Auto-focus projectors

When you are projecting intermixed glass- and cardboard-mounted slides, you may need to readjust the automatic focus for the different slide mounts.

Loading tray

Check the bottom of the tray to make sure that the LOCK is engaged in the NOTCH. If it isn't, turn the metal bottom plate until the lock and notch are engaged (see Figure 1).

Turn the lock ring in the direction of the arrow marked UNLOCK; then lift off the ring (see Figure 2). Insert a slide into each slot in the tray, with the top of the picture down.

The printed border or trademark side of each cardboard mount, or the emulsion (dull) surface of the slide, should face the next lower number. For example, the bordered, trademark (or emulsion) side of slide No. 2 should face toward slide No. 1; No. 3 should face toward No. 2, etc.

Replace the lock ring, turning it in the direction of the arrow marked LOCK until the ring is secure on the tray.

Placing tray on projector

Place the loaded slide tray on the projector so that the hole in the center of the tray fits over the center post on the top of the projector; then turn the tray slowly until the number "0" is opposite the gate index on the projector. The tray will drop into operating position on the projector. If it doesn't, check the alignment of the lock and the notch as described under "Loading tray." (Be sure that the lock ring is secure *before* you turn the tray over!)

AUXILIARY EQUIPMENT
KODAK Carrying Case for KODAK CAROUSEL Slide Trays

Has two compartments which will accommodate three trays, or a lesser number plus extension cords, lenses, and other miscellaneous equipment. Available from your photo dealer.

To order additional index cards (up to 25), order part number 194279 from

Eastman Kodak Company
Central Parts Service
800 Lee Road
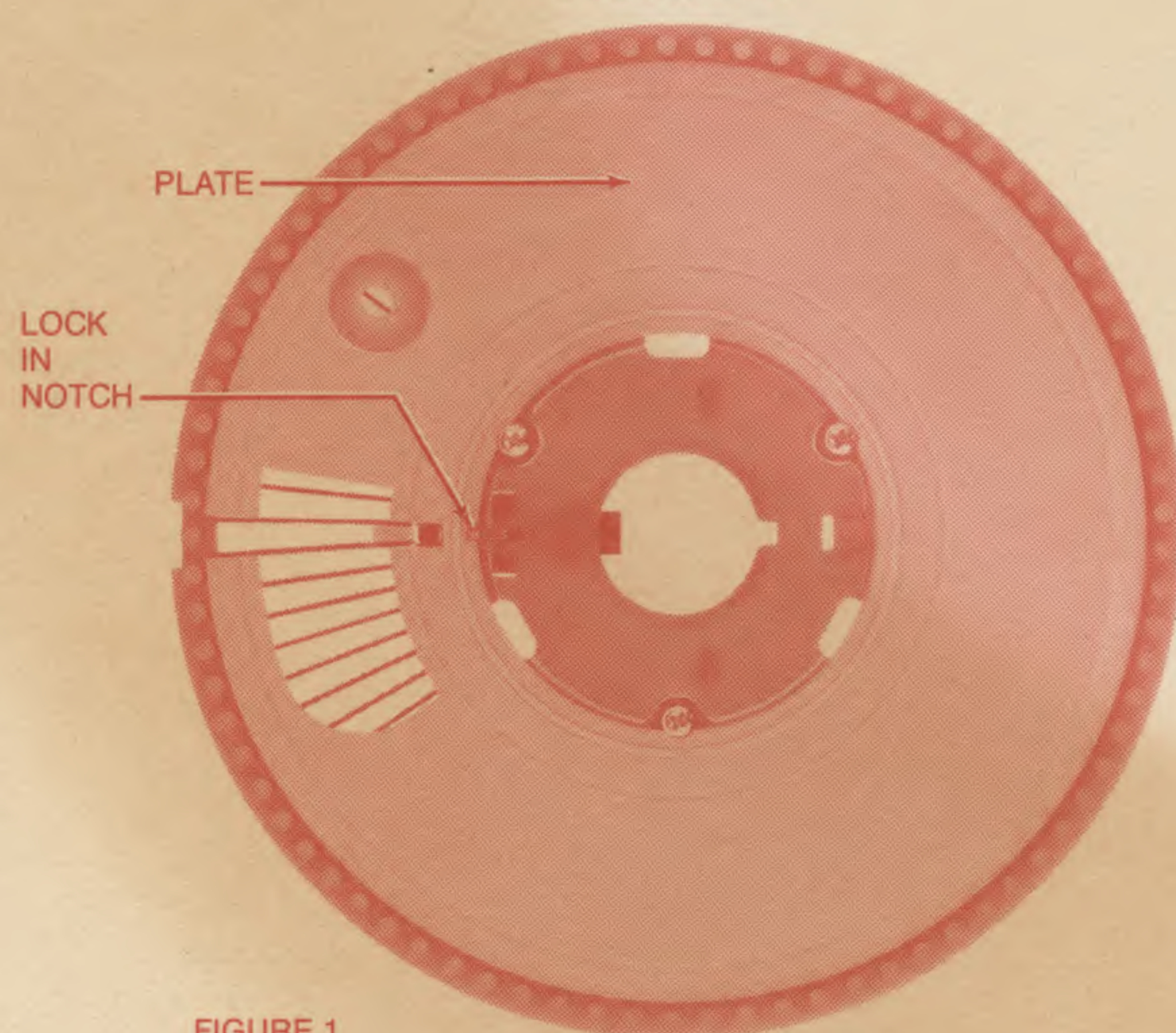**Rochester, New York 14650**

BOTTOM VIEW

PLATE

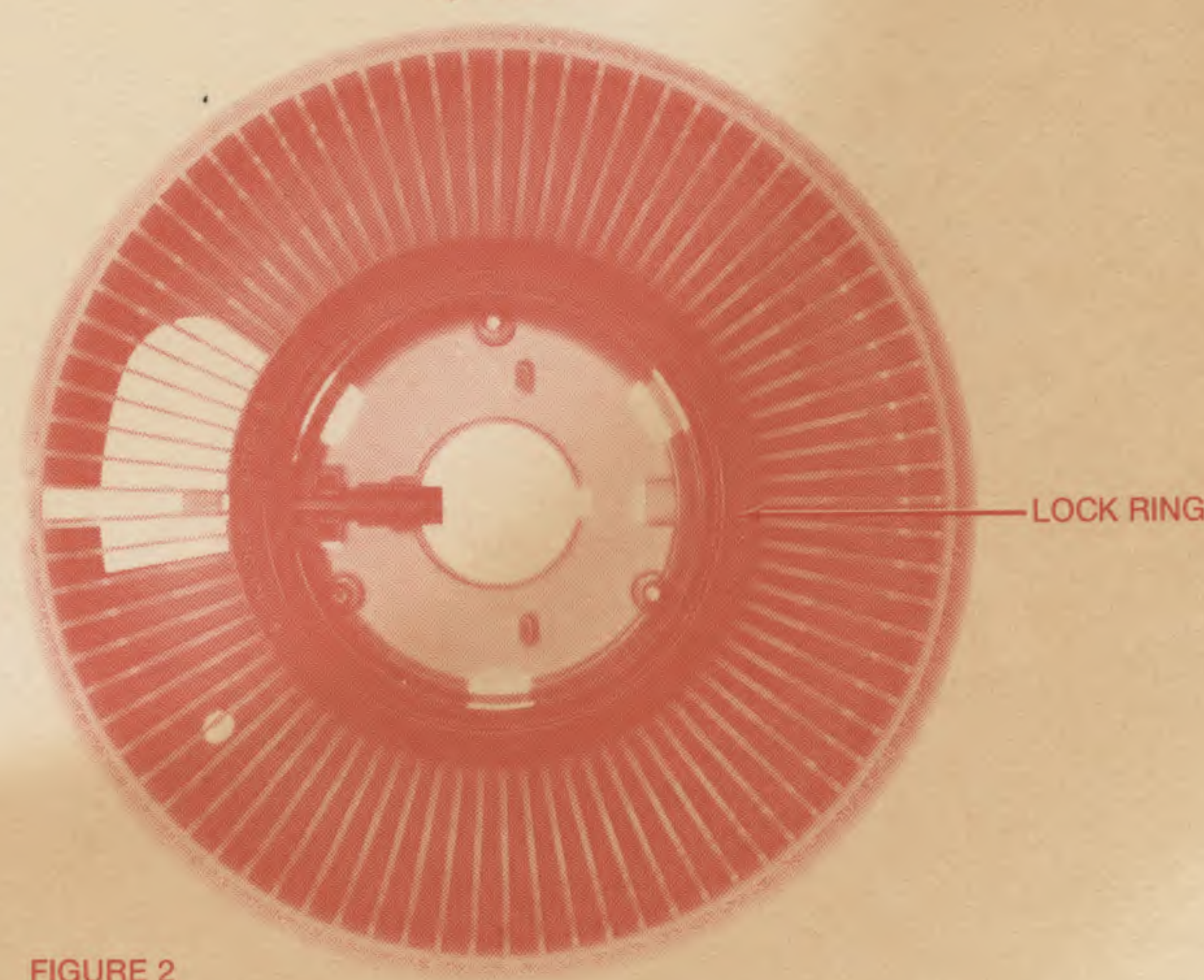LOCK IN NOTCH

FIGURE 1

TOP VIEW

LOCK RING

FIGURE 2

Kodak

1	21	41	61
2	22	42	62
3	23	43	63
4	24	44	64
5	25	45	65
6	26	46	66
7	27	47	67
8	28	48	68
9	29	49	69
10	30	50	70
11	31	51	71
12	32	52	72
13	33	53	73
14	34	54	74
15	35	55	75
16	36	56	76
17	37	57	77
18	38	58	78
19	39	59	79
20	40	60	80